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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/808,662	03/25/2004	Hasso von Blucher	4080-50	6114

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EXAMINER

LAWRENCE JR, FRANK M

ART UNIT PAPER NUMBER

1724

DATE MAILED: 03/17/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/808,662

Applicant(s)

VON BLUCHER ET AL.

Examiner

Frank M. Lawrence

Art Unit

1724

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-34 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3, 7-14, 18-32 and 34 is/are rejected.
- 7) ☒ Claim(s) 4-6, 15-17 and 33 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_.

## **DETAILED ACTION**

### ***Specification***

1. The disclosure is objected to because of the following informalities: In line 1 of claim 19, “wherein” should be inserted after “claim 28”. In line 3 of claim 31, the comma “,” should be changed to a period. In line 2 of claim 34, a word such as “including” should be inserted after “filter unit”.

Appropriate correction is required.

### ***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

3. Claims 1, 7-11, 21, 25, 26, 32 and 34 are rejected under 35 U.S.C. 102(b) as being anticipated by the Japanese reference (JP 2003-102818).

4. JP ‘818 teach a gas filter comprising several filters arranged in a zigzag manner, each including a layer of granular activated carbon (9), a fabric sheet of fibrous activated carbon (11) adjacent the granular layer, a porous mesh layer (12) adjacent the fibrous sheet, and a perforated box (10) for containing the granular activated carbon (see abstract, figures, paragraphs 10-14 in machine generated translation).

### ***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over JP '818.

7. JP '818 discloses all of the limitations of the claim except that the second filter element is arranged downstream of the first. It is submitted that it would have been obvious to one having ordinary skill in the art at the time of the invention to arrange more than one of each filter in series with respect to air flow in order to provide an increased level of purification. The multiplying of a structure to achieve an improvement in its desired effect is an obvious modification, see *St. Regis Paper Company v. Bemis Company, Inc.*, 193 USPQ 8, 10.

8. Claims 2 and 12-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP '818 in view of Oehler et al. (5,871,569).

9. JP '818 discloses all of the limitations of the claims except that the granular activated carbon is spherical and is fixed in an open-cell foamed plastic having preferred dimensions. Oehler et al. '569 disclose an air filter comprising an open-cell polyurethane foam for supporting spherical activated carbon (abstract, figures, col. 2, lines 3-6, 40-67, col. 4, line 65 to col. 5, line 11). It would have been obvious to one having ordinary skill in the art at the time of the invention to modify the JP '818 filter by supporting the granular carbon as spherical particles in an open-cell foam in order to provide a filter that exhibits a high sorptive capacity and a low pressure drop. The relative cell diameter and particle diameter dimensions are considered to be parameters that would have been routinely optimized by one having ordinary skill in the art at the time of the invention, in order to minimize pressure drop while maintaining a high level of adsorption.

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10. Claims 18-20, 22-24 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP '818 in view of Jagtoyen et al. (2003/0089237).

11. JP '818 discloses all of the limitations of the claims except that the granular and fibrous carbon have a preferred surface area, are produced by carbonization and activation of starting materials, and that the fibers have a preferred titer and diameter in relation to the granular diameter. Jagtoyen et al. '237 disclose an activated carbon fiber and particulate filter comprising fibers that are produced by carbonization and activation of various starting materials to achieve a surface area of 500-3000 m<sup>2</sup>/g and a fiber diameter of 5-50 microns (paragraphs 26, 27, 52-54, 61-63, 71, 77). It would have been obvious to one having ordinary skill in the art at the time of the invention to manufacture the activated carbon particulate and fibers of the JP '818 reference according to known methods, and to produce a preferred surface area, fiber diameter and titer in order to provide a desired level of air purification and pressure drop across the filter.

12. Claims 28-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP '818 in view of Muraoka (5,772,738).

13. JP '818 discloses all of the limitations of the claims except that the activated carbon is impregnated with a metal, acid, or base in a preferred amount. Muraoka '738 discloses an air filter comprising activated carbon that has been impregnated by zinc chloride, an acid, or an alkaline material (col. 2, lines 38-56, col. 4, lines 24-45, col. 5, lines 22-44). It would have been obvious to one having ordinary skill in the art to modify the activated carbon of JP '818 by using impregnation as disclosed in Muraoka '738 in order to provide a filter that is effective for removing specific, targeted contaminants from an air stream. The amount of impregnation is

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considered to be a parameter that would have been routinely optimized by one skilled in the art in order to achieve a desired level of adsorptive or reactive capacity.

***Allowable Subject Matter***

14. Claims 4-6, 15-17 and 33 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Conclusion***

15. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The additional references listed on the attached PTO-892 form disclose filters containing granular and fibrous activated carbon.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Frank M. Lawrence whose telephone number is 571-272-1161. The examiner can normally be reached on Mon-Thurs 7:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Duane Smith can be reached on 571-272-1166. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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Frank M. Lawrence  
Primary Examiner  
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*Frank Lawrence*  
*3-15-06*